



# Balancing Freight and Passenger Rail



**VIRGINIA**  
RAIL WORKSHOP



# Unique Traits of Virginia's Railways



Passenger service is oriented to NEC Connections

- DC, NYC, Philly, Boston
- Not cross state, or southward oriented

VRE and Amtrak are 2/3 of the rail traffic in NOVA

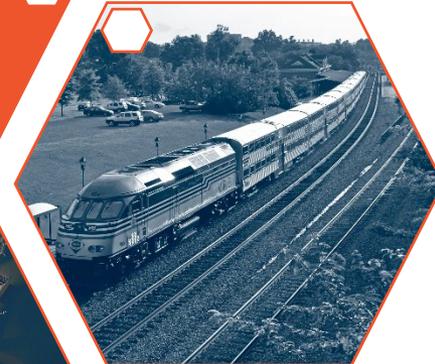
- Freight is often viewed as a "nuisance."

Port of Virginia ships 35-40% by rail.

- Major economic driver, not just a "pass-thru" state.

Freight and Passenger share the tracks

- Affects track geometry, congestion, and speeds
- Heartland, Crescent, and National Gateways share with passenger routes.



# Unique Traits of Virginia's Railways

What are your observations?



# Benefits of Rail to Virginia

## GROW THE ECONOMY

RAIL SERVICES DRIVE 6% OF VIRGINIA'S TOTAL ECONOMY.  
MORE THAN 6,000 JOBS CREATED DIRECTLY BY RAIL NETWORK



**\$2.2 BILLION**  
in annual benefits

**\$** about 9 cents per  
ton-mile of rail use



**\$190 MILLION**  
in annual benefits

**\$** about 46 cents per  
passenger-mile of rail use

*Benefits are largely derived from savings from diverting freight and passengers from highways to rail and includes congestion savings and crash reduction benefits.*

## BREATHE EASIER

3M TONS OF CO<sub>2</sub> EMISSIONS AVOIDED  
(6.4% OF TOTAL IN VIRGINIA PER YEAR)



On average, railroads  
are **four times** more fuel  
efficient than trucks



Moving freight by rail instead  
of truck generates **75% less**  
greenhouse gas emissions



The total estimated level  
of rail service in Virginia in  
2015 was about **25 billion**  
**ton-miles**

## TRAVEL SAFE

18 LIVES SAVED AND 3,000 CRASHES AVOIDED EACH YEAR



Shipping by rail avoids  
about **1.7 billion miles**  
of truck travel in Virginia



Passenger travel by rail avoids about  
**271 million miles** of personal  
driving in Virginia

## SAVE MONEY

\$123M PAVEMENT MAINTENANCE SAVINGS  
(6% OF ANNUAL VDOT MAINTENANCE BUDGET)



**8 = 240**  
PASSENGER  
RAILCARS PASSENGER  
VEHICLES



**100 = 340**  
FREIGHT  
RAILCARS SEMI-TRAILER  
TRUCKS



# Why do we Invest?

## Expand Freight Capacity

- 2002: “Market-driven” evolution of the freight rail system would relieve little projected congestion, whereas a public policy driven expansion could produce cost-effective rail solutions.
- 2018: Different shippers benefit from different types of rail infrastructure projects.

## Expand Passenger Capacity

- The public sector will have to invest in the privately owned freight network to grow the passenger rail network.

## Preserve Freight Capacity, expanding for Passenger Capacity

- Higher speed passenger trains and longer slower freight trains need to keep moving.



# Partnerships and Funding Tools

## Rail Industrial Access

- “Driveways”
- Economic Development

## Rail Preservation Fund

- “Collector Roads”
- Preserve SOGR & Shortline service

## Rail Enhancement Fund

- “Interstates”
- Capacity for freight, passenger (VRE), and Port

## Intercity Passenger Rail Operating & Capital Fund

- “Interstates”
- Operate/Expand intercity passenger rail service



# What Projects are Funded?

## Rail Industrial Access

- Siding/Spur Tracks

## Rail Preservation Fund

- Programmatic Projects – Maintain Class 2 TSS
- Bridges that support 286K load capacity

## Rail Enhancement Fund

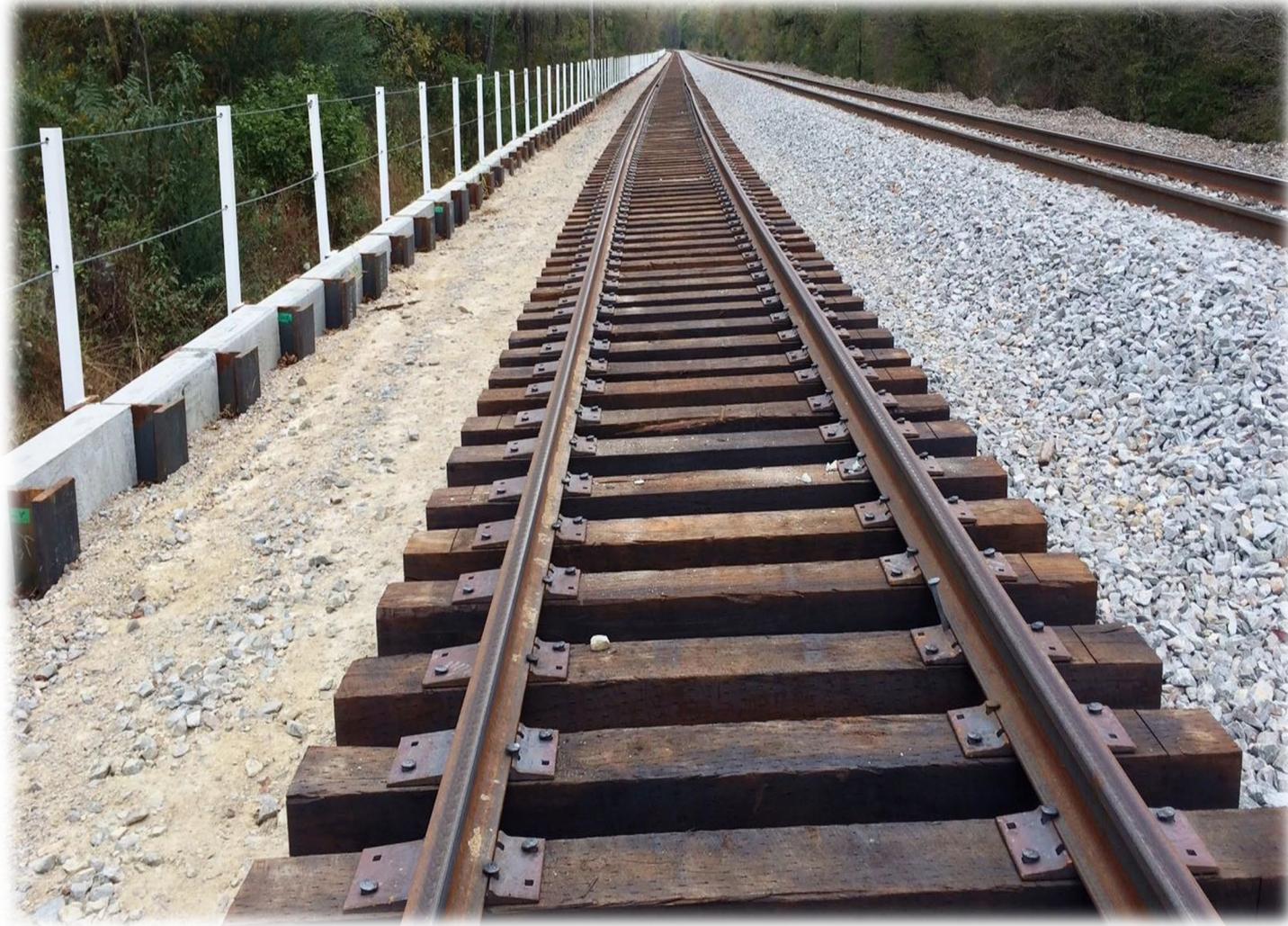
- Switches, Sidings, Mainline Track, Signals

## Intercity Passenger Rail Operating and Capital Fund

- Switches, Sidings, Mainline Track, Signals...



# Double-Track Segments/Bypasses



# Signals



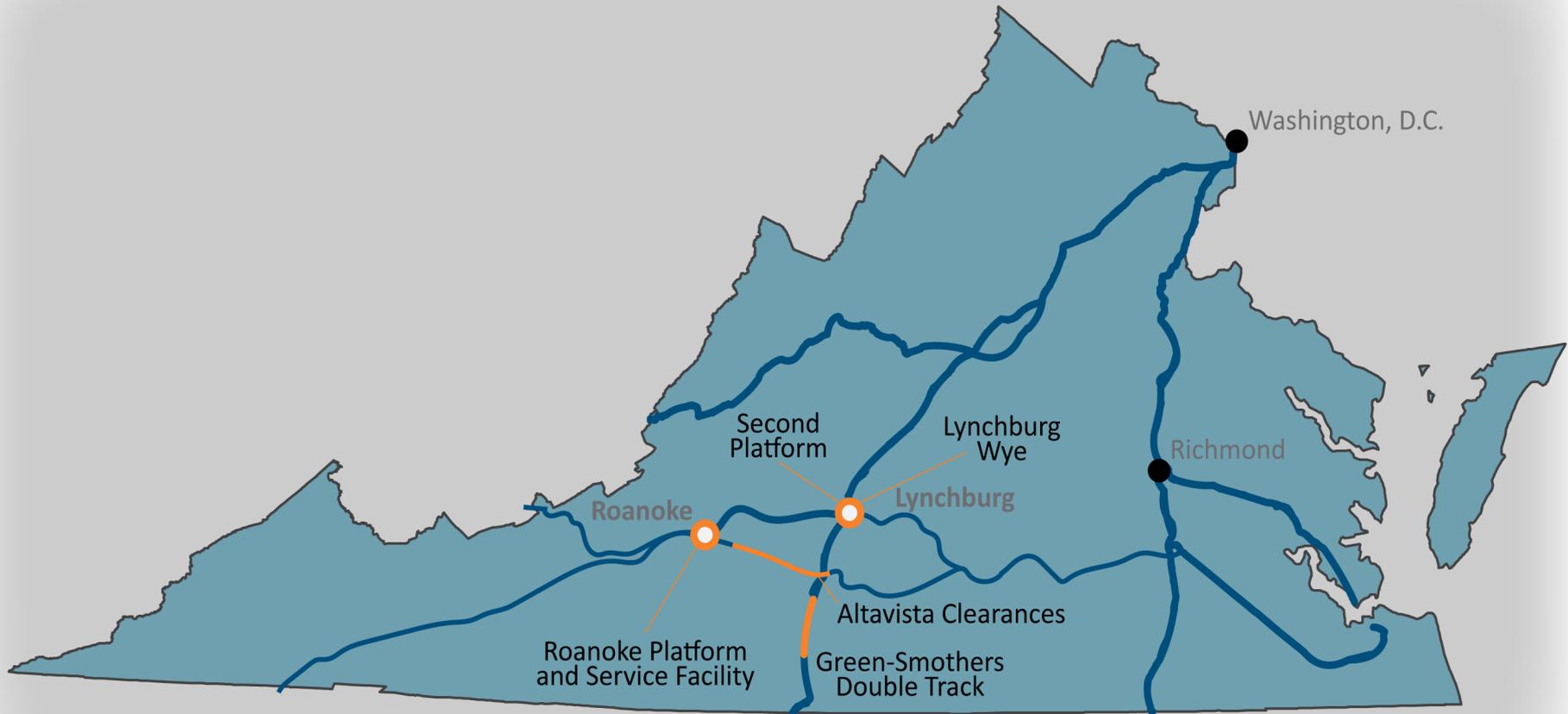
# Double-Stack Clearances



# Roanoke Extension Projects



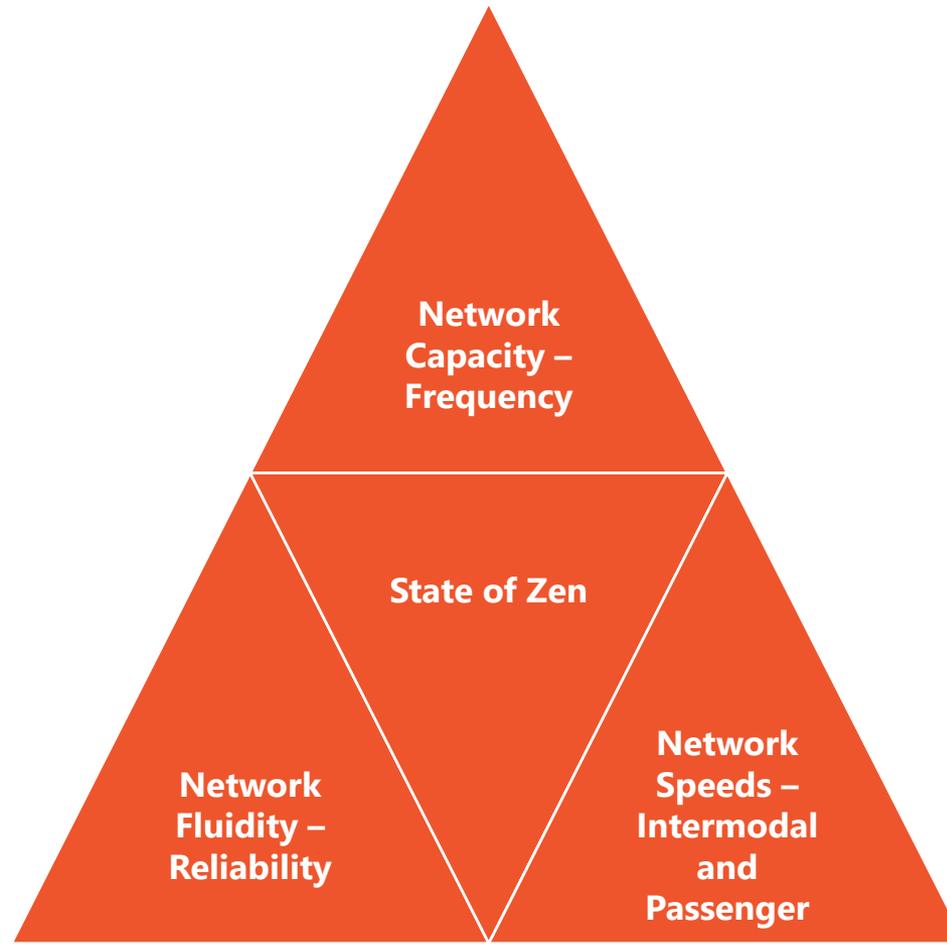
# Map Shows All Projects



### Intercity Passenger and Freight Rail Program

Districts	Project Description	Applicant	Funding Source	Previous Allocations	FY20	FY21	FY22	FY23	FY24	FY25	Total Programmed		
<b>Operating Costs for Intercity Passenger Rail Service</b>													
Nova, Culpeper, Lynchburg	Route 29 to I-81 Corridor Future Operations	Amtrak	IPROC	-	-	-	-	-	2,363,568	2,434,474	4,798,042		
			VDOT - TTF	-	-	432,600	445,578	458,945	-	-	1,337,123		
			Federal	-	-	1,730,400	1,782,312	1,835,782	-	-	5,348,494		
			<b>Subtotal</b>	-	-	2,163,000	2,227,890	2,294,727	2,363,568	2,434,474	11,483,659		
Nova, Culpeper, Lynchburg, Salem	Roanoke Route 46 Service 1 daily round trip	Amtrak	IPROC	553,166	206,000	210,635	215,374	220,220	225,175	230,242	1,860,812		
Nova, Fredericksburg, Richmond, Hampton Roads	Newport News Route 47 Service 2 daily round trips	Amtrak	IPROC	1,432,443	2,950,658	3,017,048	3,084,932	3,154,343	3,225,315	3,297,885	20,162,624		
Richmond, Hampton Roads	Norfolk Route 50 Service 2 daily round trips	Amtrak	IPROC	2,011,335	2,200,000	2,249,500	2,300,114	2,351,866	2,404,783	2,458,891	15,976,489		
Nova, Fredericksburg, Richmond, Hampton Roads	Norfolk Train 3	Amtrak	IPROC	-	-	-	2,185,454	2,234,627	2,284,906	2,336,316	9,041,303		
Nova, Fredericksburg, Richmond	Richmond Route 51 Service 1 daily round trip	Amtrak	IPROC	2,053,218	2,114,768	2,162,350	2,211,003	2,260,750	2,311,617	2,363,628	15,477,334		
	Amtrak Marketing Costs	Various	IPROC	1,752,853	900,000	900,000	900,000	900,000	900,000	900,000	7,152,853		
<b>Total Intercity Passenger Rail Operating Costs</b>				<b>7,803,015</b>	<b>8,371,426</b>	<b>10,702,533</b>	<b>13,124,766</b>	<b>13,416,533</b>	<b>13,715,365</b>	<b>14,021,436</b>	<b>81,155,074</b>		
<b>Capital Equipment Contribution for Intercity Passenger Rail Service</b>													
Nova, Culpeper, Lynchburg	Route 46 Roanoke Service	Amtrak	IPROC	-	-	-	-	-	-	-	-		
Nova, Fredericksburg, Richmond, Hampton Roads	Newport News Route 47 Service	Amtrak	IPROC	1,860,548	1,329,351	1,359,262	1,389,845	1,421,117	1,453,092	1,485,786	10,299,001		
Nova, Fredericksburg, Richmond	Richmond Route 51 Service	Amtrak	IPROC	1,105,171	1,130,037	1,155,463	1,181,461	1,208,044	1,235,225	1,263,018	8,278,419		
Nova, Fredericksburg, Richmond, Hampton Roads	Norfolk Train 3	Amtrak	IPROC	-	-	-	500,000	511,250	522,753	534,515	2,068,518		
Nova, Fredericksburg, Richmond, Hampton Roads	Norfolk Route 50 Service	Amtrak	IPROC	1,153,781	2,282,826	2,334,190	2,386,708	2,440,410	2,495,319	2,551,464	15,644,698		
<b>Total Capital Equipment Contribution</b>				<b>4,119,500</b>	<b>4,742,215</b>	<b>4,848,914</b>	<b>5,458,015</b>	<b>5,580,820</b>	<b>5,706,389</b>	<b>5,834,783</b>	<b>36,290,636</b>		
Nova, Fredericksburg, Richmond, Hampton Roads	Amtrak Station State-of-Good-Repair	Amtrak	IPROC	-	-	1,341,060	1,381,282	1,422,731	1,465,412	1,509,375	7,119,870		
<b>Total Station Improvements</b>				<b>-</b>	<b>-</b>	<b>1,341,060</b>	<b>1,381,282</b>	<b>1,422,731</b>	<b>1,465,412</b>	<b>1,509,375</b>	<b>7,119,870</b>		
<b>Capacity and Speed Improvements</b>													
Nova, Fredericksburg, Richmond	CSX National Gateway / I-85 Corridor I-95 Corridor Improvements	CSX	IPROC	44,467,039	32,125,348	30,312,328	30,935,286	31,486,197	-	-	169,326,198		
			PTF	41,982,622	32,700,000	32,700,000	32,700,000	32,700,000	32,620,919	-	-	205,413,541	
			Federal - FastLane	13,912,000	31,088,000	-	-	-	-	-	-	-	45,000,000
			Federal - Other	21,808,093	11,323,943	12,528,525	9,754,641	2,985,618	-	-	-	-	58,400,820
			VDOT - TTF	2,329,064	2,830,986	3,132,131	2,438,661	746,405	-	-	-	-	11,477,247
			Local / Private	37,500,000	7,500,000	-	-	-	-	-	-	-	45,000,000
			<b>Subtotal</b>	<b>162,008,818</b>	<b>117,568,277</b>	<b>78,672,984</b>	<b>75,828,588</b>	<b>67,918,220</b>	<b>32,620,919</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>534,617,806</b>
Nova	Long Bridge and Related Statewide Improvements	CSX/Norfolk Southern Railway	REF	-	777,473	5,441,453	14,750,000	21,000,000	15,000,000	25,000,000	81,968,926		
			Local / Private	-	333,203	2,561,551	6,321,428	9,000,000	6,428,571	10,714,286	35,359,040		
			IPROC	-	12,956,082	11,180,813	13,542,439	13,361,626	39,310,664	41,456,576	131,808,200		
<b>Subtotal</b>				<b>-</b>	<b>14,066,758</b>	<b>19,183,817</b>	<b>34,613,868</b>	<b>43,361,626</b>	<b>60,739,235</b>	<b>77,170,862</b>	<b>249,136,166</b>		

# Mode Shift: Complimenting Car/Trucks





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**THANK YOU!**